National Library of Canada
Acquisitions and Bibliographic Services Branch
395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale du Canada
Direction des acquisitions et des services bibliographiques
395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file Votre référence

Our file Notre référence

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

Canada

University of Alberta

Social Support and the Health of Elderly Men and Women

by

Monty K. Nelson

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment

of the requirements for the degree of Master of Education

in

Counselling Psychology

Department of Educational Psychology

Edmonton, Alberta

Fall 1995

National Library
of Canada

Acquisitions and
Bibliographic Services Branch

395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale
du Canada

Direction des acquisitions et
des services bibliographiques

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file Votre référence

Our file Notre référence

THE AUTHOR HAS GRANTED AN IRREVOCABLE NON-EXCLUSIVE LICENCE ALLOWING THE NATIONAL LIBRARY OF CANADA TO REPRODUCE, LOAN, DISTRIBUTE OR SELL COPIES OF HIS/HER THESIS BY ANY MEANS AND IN ANY FORM OR FORMAT, MAKING THIS THESIS AVAILABLE TO INTERESTED PERSONS.

L'AUTEUR A ACCORDE UNE LICENCE IRREVOCABLE ET NON EXCLUSIVE PERMETTANT A LA BIBLIOTHEQUE NATIONALE DU CANADA DE REPRODUIRE, PRETER, DISTRIBUER OU VENDRE DES COPIES DE SA THESE DE QUELQUE MANIERE ET SOUS QUELQUE FORME QUE CE SOIT POUR METTRE DES EXEMPLAIRES DE CETTE THESE A LA DISPOSITION DES PERSONNE INTERESSEES.

THE AUTHOR RETAINS OWNERSHIP OF THE COPYRIGHT IN HIS/HER THESIS. NEITHER THE THESIS NOR SUBSTANTIAL EXTRACTS FROM IT MAY BE PRINTED OR OTHERWISE REPRODUCED WITHOUT HIS/HER PERMISSION.

L'AUTEUR CONSERVE LA PROPRIETE DU DROIT D'AUTEUR QUI PROTEGE SA THESE. NI LA THESE NI DES EXTRAITS SUBSTANTIELS DE CELLE-CI NE DOIVENT ETRE IMPRIMES OU AUTREMENT REPRODUITS SANS SON AUTORISATION.

ISBN 0-612-06410-7

Canada

University of Alberta

Library Release Form

Name of Author: **Monty K. Nelson**

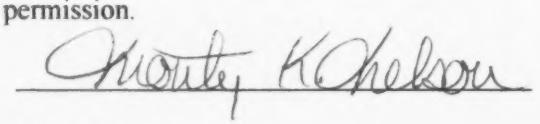
Title of Thesis: **Social Support and the Health of Elderly Men and Women**

Degree: **Master of Education in Counselling Psychology**

Year this Degree Granted: 1995

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly, or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright in the thesis, and except as hereinbefore provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatever without the author's prior written permission.



#1-10623-68 avenue
Edmonton, Alberta, Canada
T6H 2B3

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Social Support and the Health of Elderly Men and Women by Monty K. Nelson in partial fulfillment of the requirements for the degree of Master of Education in Counselling Psychology.

Dr. Dustin T. Shannon-Brady Sept 29/05

Dr. Thomas. O. Maguire

Dr. Carl D'Arcy

Abstract

The present study investigated the relationships between perceived social support, self-esteem and three measures of physical health in a sample of several hundred adults. Hypotheses predicted significant relationships between perceived social support, self-esteem and physical health. Gender differences were predicted in perceived social support, in the relationship between perceived social support and physical health, and in the relationship between perceived social support and self-esteem. Results showed significant support for the relationship between perceived social support and one of the health measures, overall self-rated health status. Significant support was found for the relationship between self-esteem and all three physical health measures. Significant gender differences were found in perceived levels of social support, and the relationship between self-esteem and health These findings suggest that self-esteem and perceived social support may be valuable components in the physical health of the elderly. Further implications of the present study and directions for future research are discussed.

ACKNOWLEDGEMENTS

The contributions of the following are greatly appreciated:

Dr. Shannon-Brady, thesis supervisor, who spent countless hours pouring over the details of this thesis amidst his many other commitments. You inspired and challenged me by showing strong interest in the construction of this thesis, the findings of the thesis, and the implications of those findings to the world in which we live.

Dr. Carl D'Arcy, and the Applied Research Unit at the Royal University Hospital, Saskatoon, for the use of the data from the 1989 Saskatchewan Study of Aging and Health, and for all the years of mentorship and training in applied methods of research. Your role over the years has been invaluable in my life, and I am grateful.

Dr. Tom Maguire for assistance with the data analysis, general comments on this thesis, and for being a great source of support and information.

The hundreds of people in Saskatchewan who gave their time and information during the interviews and questionnaires for the 1989 study.

My classmates in the counselling program, whose commiseration during the final few weeks of this thesis was a great source of help and made me realize I was not alone!

My parents and sisters for being the ultimate definition of social support, and for providing me with many of the wonderful opportunities I've had in my life.

And finally, my wife Cindy, the best supporter during my Master's degree: all of your caring and understanding during my stress and long nights of typing were paramount in keeping me on track, and I am eternally grateful.

TABLE OF CONTENTS

CHAPTER ONE **1**

INTRODUCTION 1

Background and Relevance 1

Social Support and Health in Older Adults 1

Gender and Social Support 2

Apples to Oranges - Variations in Defining Social Support 3

The Relationship of Self-Esteem to Psychological and Physical Health 4

SUBSEQUENT CHAPTERS 5

CHAPTER 2 ..... **6**

SOCIAL SUPPORT AND HEALTH: THEORY AND RESEARCH 6

PROBLEMS IN THE RESEARCH LITERATURE: DEFINING THE TERMS USED 8

A SALUTOGENIC FOCUS IN RESEARCH 10

CHANGES IN HEALTH AND SOCIAL SUPPORT DURING ADULTHOOD 11

MAJOR STUDIES ON PHYSICAL HEALTH AND SOCIAL SUPPORT: MORTALITY AND MORBIDITY 11

Social Support and Mortality 12

The Alameda County Study 12

The Tecumseh Study 14

The Evans County Study 15

The Sweden Study 16

Social Support and Morbidity 18

Gender and Social Support 21
Gender Differences in Support Structure 21
Gender Differences in Support Functions 22
Gender Differences in Support Donor/Receiver Roles 23
General Critiques of the Studies on Social Support and Health 24
Physical Health, Self-esteem, and Social Support in Older Adults 27
CHAPTER 3 30
METHOD AND PROCEDURE 30
Study Design and Participants 30
Sample Demographics 32
Variables 32
Demographic Data 32
Social Support 33
Self-Esteem 33
Physical Health 34
Statistical Procedures 35
Summary and Research Questions 36
CHAPTER 4 37
RESULTS AND DISCUSSION 37
Tests of Hypotheses 37
Additional Analyses 42
Discussion of Results 42
Perceived Social Support and Physical Health 43
Gender Differences in Perceived Levels of Social Support 45
Gender Differences in Perceived Social Support and Physical Health 47

Social Support and Self-Esteem 50
Gender Differences in Perceived Social Support and Self-Esteem 51
Self-Esteem and Physical Health 52
General Discussion of Results 54

CHAPTER 5 55

CONCLUSIONS AND DELIMITATIONS 55

REFERENCES 60

APPENDIX A 71

THE ROSENBERG SELF-ESTEEM SCALE (ROSENBERG, 1979) 71

APPENDIX B 72

THE PERSONAL RESOURCE QUESTIONNAIRE-PART TWO (BRANDT AND WEINERT, 1981) 72

APPENDIX C 74

HEALTH STATUS MEASURES 74
Overall Self-Rated Health Status 74
Number of Visits to Doctor in Past Year 74
Physical Symptoms Currently Being Experienced 75

APPENDIX D 76

LISTWISE CORRELATION MATRICES 76
Correlation Coefficients for Men and Women Combined (n=365) 76
Women Only (n=186) 76
Men Only (n=179) 77

LIST OF TABLES

Table 1:	Participants in the Saskatchewan Aging and Health Study	31
Table 2:	Correlation Coefficients Between Social Support and Health	37
Table 3:	Levels of Perceived Support Between Genders	38
Table 4:	Correlations Between Perceived Social Support and Overall Self-Rated Health Status by Gender	39
Table 5:	Correlation Between Self-Esteem and Perceived Social Support	40
Table 6:	Gender Differences in Correlations Between Perceived Social Support and Self-Esteem	40
Table 7:	Correlation Coefficients Between Self-Esteem and Health	41
Table 8:	Correlation Coefficients Between Self-Esteem and Overall Self-Rated Health Status by Gender	42
Table 9:	Comparisons by Gender	48

CHAPTER ONE

Introduction

Background and Relevance

In the last twenty years research generally shows some degree of connection between how healthy people are and the social support in their life. However, research findings have not been conclusive regarding the strength of this connection in older men and women, nor of it's role in the mental health of seniors. Research in this area is essential if we are to understand the importance of social relations in effectively caring for older adults. This thesis examines the relationship between social support, mental and physical health in older adults.

Social Support and Health in Older Adults

There have been several large, well-known studies that have investigated the relationship between social support and mortality, and even morbidity (see Berkman and Syme, 1979; House, Robbins, & Metzner, 1982; Schoenbach, Kaplan, Friedman, & Kleinbaum, 1986; Orth-Gomer and Johnson, 1987; Seeman and Syme, 1987; Keicolt-Glaser, Kennedy, Malkoff, Fisher, Speicher, and Glaser, 1988; and Thomas, Goodwin, and Goodwin, 1985). Generally, all point to an association between the increased risk of illness or death and poor social support in adults over 55.

While it is true that one can experience problems at any time of life, it would seem that as one ages the risks of incurring multiple problems increases. Those over the age of 65 have the highest usage of medical services. Usage rates are from two to three times as much as those below 65 (Saskatchewan Health, 1990, p. 25). Additionally, Canadian statistics reveal that short and long term disability rates are at least twice as high for the 65+ age groups as they are for the 25-44 range (Simmons-Tropea and Osborn, 1987, p. 414). Aging can also mean a change in residential, occupational, economic, and social conditions, with increased isolation often as a result. Sadly, the culmination of these factors may represent itself in another sobering statistic: the rates of suicide among the elderly are very high. Suicide rates for Canadian men 80 years of age and older are higher than for any other age group (Statistics Canada, 1991). While it is true that older women's rates of suicide are also quite high, the indication may be that men have a more difficult time adjusting to the changes of aging. This indicates the essential nature of examining the social support systems of the elderly men and women in our society.

Gender and Social Support

Research and theory indicate that men and women may have different types of social support networks. Studies show that women may tend to have larger networks than men, and may also be more likely than men to receive social support from people outside their immediate household (Chappell, Segall, and Lewis, 1990). In Chappell et

al.'s study (1990), men were most likely to receive assistance and support from their wives, while women were most likely to receive support from their children and other women. Furthermore, women were more likely to define friendship as involving closeness and stimulation, while men were more likely to define it as comradeship and similar interests. Thus it is very likely that men and women perceive social support differently, and as such levels of physical and mental health which are associated with social support may differ as well. As Cohen indicates (personal communication; Feb. 7, 1995) it is possible that certain types of support are more important to women than men. There is a need to evaluate gender differences in the perception of support to understand the relationship of social support in psychological and physical health.

Apples to Oranges - Variations in Defining Social Support

Some of the inconsistencies in findings on social support and health may be due to differing definitions and measures of social support in the research literature. Components of social support that are discussed in the literature range from who is in the support network, to their role, to what type of support is given, and the extent to which the person being supported is able to give support to others.

However, one of the most important areas to evaluate when researching health and social support may be the **perception** of feeling supported. Shumaker and Hill (1991) state that **most** studies utilize notions of the size of the support network and who the members are. However, Schwarzer and Leppin (1989) state that one of the most important aspects of social support to consider may be **perceived** social support. How

people define support may vary (Chappell et al., 1990) and as such it may be most important to ask to what extent they perceive support from their network. However, research has provided very little focus on perceived support and measures of health in older men and women.

The Relationship of Self-Esteem to Psychological and Physical Health

Another problem with the research literature lies in that it often fails to examine some key linkages in models of social support to physical health. Although the relationship between physical health and mental health (such as a measure of self-esteem) is well investigated and established in the fields of behavioural and psychosomatic medicine (see, for example, Duffy and MacDonald, 1990; Rew, 1990; Jenkins, Stanton, and Jono, 1994; Flett, Harcourt, and Alpass, 1994; Thompson, 1993; and Rossi, 1991.) the moderator role of self-esteem in explaining the relationship between social support and health is unexplored. Theoretical **models** of the social support-physical health connection (e.g. Cohen, 1988) often mention the importance of self-esteem. However, self-esteem is rarely investigated in the **studies** of physical health and social support (particularly in studies related to those adults 55 years of age and older). Perhaps the assumption is made that positive mental health will automatically be associated with a good support system. However, research needs to investigate the association of self-esteem to social support and physical health. Investigation of this linkage may help provide some further detail and clarification of the physical health-support relationship. Maybe social support is associated with good physical health only

when also accompanied by good self-esteem. Those people with good social support and poor self-esteem may continue to have health problems. Conversely, those people with good self-esteem may also have good health, whether or not they have a good support system. Further, it is possible that differences may exist along gender lines amidst these relationships. The relationships between self-esteem, social support, gender and health will be explored in the current study.

Subsequent Chapters

Chapter two will focus on an extensive literature review on social support and health in older adults, issues of gender and social support, and the relationship of mental health and physical health. Chapter three will focus on tests of the hypotheses, data analyses, and results. Chapter four will provide a discussion of the results. The fifth chapter will be the limitations and delimitations of the present study and recommendations for future research.

CHAPTER 2

Social Support and Health: Theory and Research

There are various models in the research literature that integrate the role of social support in health. Very comprehensive summaries of the models for the effects of social support come in papers by Cohen (1988) as well as Speigel (1993). Cohen (1988) and Speigel (1993) review levels of analysis for explaining the possible influence of social support on the etiology of disease. These include models that are based upon a generic approach, a stress-centered approach, or a psychosocial process model. All models generally implicate the lack of support as a contributing factor in illness or as a promoter of health.

First, generic, or main-effects models stipulate that social support influences general health through behavioural patterns or biological responses. Some examples of this include a social network that influences one's health behaviours regarding smoking, drinking, exercise, eating correctly, and rest. Social support may influence biological responses as a direct result of these behaviours, or indirectly through improved neuroendocrine responses, immune responses, and hemodynamic responses.

Secondly, stress-centered, or buffering models, posit that social support is only important for those who are experiencing stress. In this sense, support acts as a buffer which protects people from psychological or biological reactions to stress which are malevolent to health. This buffering can take place either immediately after the stressful

event or later on in the process. Talking or being with others who are close can be helpful in one's perceived ability to cope, moderation of the affective reaction to stress, dampening physiologic responses, providing a solution to the problem, minimizing the problem's importance, or encouraging healthful behaviours such as proper rest and nutrition during the times of stress (Cohen, 1988, p. 279).

Finally, psychosocial process models involve combinations of generic and stress-buffering properties of social support. Generic effects occur from the general presence and integration of people with their support network, and stress-buffering effects emerge from perceived availability of support within that network during times of stress. In process models, both effects can work together. Social support can be seen as providing combinations of information to make health choices, peer pressure to behave in certain ways, develop an individual's sense of identity and self-esteem, or to provide actual aid and tangible services to the individual. These mechanisms are present during non-stress times as well as stressful times.

A key area within the psychosocial paradigm of social support involves looking at how self-esteem, self-identity, and control over one's environment emerge from being involved with a support system. Further, the theory explores how those variables may result in better health. Through social integration providing global positive affect, a feeling of orderedness and stability, and better self-evaluations, positive psychological states are presumed to be facilitative of good health. This is due to the reasoning that they lessen psychological despair and produce greater motivation to care for oneself, or enhanced immune functions (Cohen 1988, p. 281) which result in better health.

Contemporary research neglects to pursue a detailed examination of the pathways of how social integration influences self-concept. Further, when we turn to the areas of seniors' support networks and self-concepts in regards to health, there is even much less research.

Problems in the Research Literature: Defining the Terms Used

Although in the past 20 years there has been a large accumulation of data investigating the role of social support in health, there have been conflicting interpretations as to how that relationship changes over time and according to gender.

Perhaps one of the problems has been the various definitions of social support, and measuring the construct in a consistent and valid way. Few researchers seem to agree on a single definition of the construct and many investigations use the concept in a broad range of measures and aspects of social relations (Cohen, 1988; House and Kahn, 1985). Many researchers compare different outcome variables based on different measures of social support. Schwarzer and Leppin (1989), in their meta-analysis of the research on social support and health, state that social support is defined in terms of: (1) the structural and functional aspects of social support, (2) support actually received and the perception of receiving that support (3) global and problem-specific support (4) presence of support and satisfaction with social support, and (5) support given to others and received social support.

To paraphrase these categories, the effectiveness of social support may depend on who is in the network and what their role is, whether we perceive we are supported, whether we are given support in general or specialized support for certain problems, how satisfied we are with the support we receive, and finally, to what extent we give support to others. Although all aspects of examining social support are important, rarely do we find more than one measure of social support used in any one research project. Perhaps this is further reason why any "lump-sum" approach to making broad-based conclusions about the role of social support is troublesome: so many aspects of the concept exist.

In the major part of the research literature, the notions of the **structure** and the **function** of the social support are involved in most definitions (Cohen & Syme, 1985; Shumaker and Hill (1991). (Structure refers to the existence and types of connections within a social network, and function refers to the types of resources that those connections provide.) However, an important area of support to evaluate when researching health and social support may be the **perception** of feeling supported (Schwarzer and Leppin, 1989). How people define support may vary (Chappell, Segall, and Lewis, 1990) and as such it may be most important to ask to what extent they perceive support from their network, rather than just focusing on who is in that network, or what type of support is given. Current research has provided very little focus on perceived support.

A further complicating factor in making conclusions about the role of social support in health is that the measures of health also vary widely in studies, from tracing

evidence of disease onset and progression (morbidity) to disease-specific mortality. Few focus on identifying and/or defining positive health states. Furthermore, there is some evidence that gender differences may exist in responsiveness to certain measures (Kirshbaum, Klauer, Filipp, and Hellhammer, 1995).

Thus, with differences in type of social support monitored and measures of health used, as well as possible gender differences in responsiveness to health measures, it is likely that elucidation of the positive effects of social support in health may be difficult.

A Salutogenic Focus in Research

In examining and exploring health, it is useful to keep in mind the framework of Aaron Antonovsky and his salutogenic focus (1987). Antonovsky (1987) states that by and large, our society holds the perception of a fundamental dichotomy between health and sickness. As a result, debates ensue over whether is wiser to treat those who are sick, or to invest in health maintenance.

Antonovsky (1987) argues that we should view the notion of people's health as falling on a continuum. As he states, " We are all terminal cases ...and [at the same time] in some measure healthy" (p.3). As such, we should adopt a "salutogenic" model which turns toward a somewhat positive approach in viewing where people stand along a continuum of ease/dis-ease and studying factors which contribute to one's position amidst the distribution. Rather than viewing health from a pathogenic orientation, the salutogenic orientation leads one to think in terms of factors which promote movement

toward the healthy end. While it can be fruitful to examine people's health in terms of "risk factors" which may contribute to problems in health, Antonovsky states that we should look for factors which can be seen as promoting healthiness by fending off conditions fruitful for producing illness. These factors are termed Generalized Resistance Resources or GRR's (p.19). Although general health is affected by many factors including diet, genetics, incidental occurrences and the like, social support can be seen as a key resource that influences health.

Changes in Health and Social Support During Adulthood

Effective social support for the elderly may be especially important in boosting feelings of self-worth and control. This is due to the fact that the elderly may face greater risk of losing self-worth and role-identity, particularly when occupational or social roles decrease (Krause and Borawski-Clark, 1994). Whereas in the late teens and early 20's, financial and material support may be most important to an individual beginning their career or university education, later adulthood is more likely to require emotional support. By giving emotional support to the elderly, the support provider may not feel overly burdened, and the recipient does not feel overly dependent and retains some sense of control over events in their lives (p.256).

Major Studies on Physical Health and Social Support: Mortality and Morbidity

Studies examining the role of social support in people's lives have focussed on two areas. The first area centers around the notion of poor social support as being a risk

factor for early mortality. The second centers around social support as a risk factor for illness (such as cardiovascular conditions) or producing physical conditions that may serve as a precursor to illness (such as elevated blood pressure, or increased levels of stress hormones).

Social Support and Mortality

There have been several large-scale epidemiological studies done to investigate the relationship between social support and death. Generally, all point to some degree of association between risk of dying and social support status. However, the findings do not always agree as to whether this association is the same for men as it is for women across various age groups. The four studies to be reviewed here are ones that were done in Alameda County, California; Tecumseh County, Michigan; Evans County, Georgia; and a national study done in Sweden.

The Alameda County Study

One of the first large-scale studies done was the Alameda County, California study (Berkman & Syme, 1979). A random selection of 2,229 men and 2,496 women (non-institutionalized) completed a self-administered questionnaire in 1965, and mortality data were collected from 1965 through 1974. Return rate of the questionnaires was 86%. At the time of completion of the questionnaire, the age range of the sample was from 30 to 69 years old.

For the Alameda county study, Berkman and Syme (1979) constructed a measure of social support called a Social Network Index (SNI). It included four measures of the respondent's social support structure: marital status, number and frequency of contacts with family and friends, church group membership, and group affiliation. Their analyses showed a linear association between SNI and mortality: decreases in SNI were related to higher mortality. (The researchers used a risk-ratio effect measure, an estimate which involved an exponentiation of the regression coefficient of the lowest social network with the highest. With this type of measure, participants with low social support are determined to be N times more likely to die compared to participants with high social support.) For the Alameda study, the age adjusted relative risk was 2.3 for men and 2.8 for women.

This linear pattern was generally consistent for men and women across all age groups, with the exception of one anomaly: 50-59 year old women with a moderate SNI had a decreased mortality rate, whereas women with a high SNI had an increased mortality rate. Could having many friends be lethal for some older women? Perhaps illness results in the activation of social support networks? Or, are the effects of social support not helpful? This seemingly important aspect of the data was not discussed by the authors. Furthermore, analysis revealed that the relative risk for nonmarried compared to married was about 1.4 for women in each age bracket, but for men in the youngest age groups the relative risk was much higher: 2.9 and 2.1 for 30-49 and 50-59 year-olds respectively. This would seem to point towards the key nature and need for

men to have a partner early in life, as much as "traditional" stereotypes picture the male as being more capable of being independent. Although being married was very significant for men, interestingly enough, a measure of **marital satisfaction** was *unrelated* to mortality!

The Tecumseh Study

In the Tecumseh (Michigan) Community Health Study (House, Robbins, & Metzner, 1982), 1322 men and 1432 women underwent an extensive physical exam and an interview for baseline data between 1967 and 1969. Age range of the participants was from 35 to 69 at the time of the initial interview. Mortality data were collected through 1979. Similar to the Alameda study, four structure-based aspects of social support were assessed: marital status and visits with family and friends; formal organization involvement including churches, meetings, and volunteer work; social leisure activities; and solitary leisure activities.

Analysis of the Tecumseh results seem to cast doubt on some of the Alameda findings. Using a similar index of social support as the Alameda study, analysis yielded a significant relationship between social support and mortality for men but not for women. In examining each of the social support measures separately, for men the risk ranged from 1.9 for marital status to 2.8 for meetings of voluntary associations. For women, only church attendance was significantly related to mortality. Furthermore, the relationship for men appeared to be nonlinear with the largest effect occurring at the contrast between low levels of social support versus all other levels of support.

The Evans County Study

Another large scale study on social support was done in Evans County, Georgia (Schoenbach, Kaplan, Fredman, & Kleinbaum, 1986). Over 2000 subjects (902 men and 1157 women) were interviewed between 1967 and 1969, and mortality data were collected on them through 1989. It is difficult to gather the exact age range of the sample, but it appears to have gone from approximately 22 to an unspecified maximum somewhere over 60. The sample included an approach to everyone in the county over the age of 40, and then a random sample of half of those between 15-39. No justification for this type of procedure was given, nor response rates.

As well as the interview, medical histories were obtained and respondents completed physical activities questionnaires and underwent physical examinations. Structure-based measures of social support included marital status; number of relatives living nearby; number of close friends; number of neighbors known well enough to visit; number of relative families seen often; frequency of church attendance; and spare time spent in church activities. Control variables in the data analyses included age, presence of chronic disease, systolic blood pressure, electrocardiogram abnormalities, weight/height index, social status, and leisure-time physical activity (for men only).

The authors examined the relationship of individual measures of social support, as well as indices designed to approximate Berkman and Syme's (1979) Social Network Index to mortality. Results showed that mortality increased with lower scores on the index of social support, but this pattern only held for white males and females over 60

years old. For white females under 60, the relationship was reversed, and gives the impression that **lower** mortality is the correlate of decreased social support. This occurrence was not explained nor discussed by the authors.

As mentioned earlier, successfully operationalizing social support can be challenging. In attempting to derive a valid measure of the construct there is always the inherent risk of exclusion of an alternate or additional relevant measure. As an example, one of the questions to be asked in the Evans County study is the extent to which church activities are a key criterion to judge social support for all participants. The authors provided no explanation for the use of this variable to the exclusion of other activities. It is very possible that the addition of other categories of activities could have provided further elucidation of results, particularly for people with no particular religious affiliation, or willingness to express their spirituality in an organized way.

The Sweden Study

Fourth, the Swedish National Survey of Living Conditions (SNSLC) was the source for a very large-scale examination of the relationship between social support and mortality in men and women (Orth-Gomer and Johnson, 1987). 17,433 men and women between the ages of 29 and 74 were interviewed during 1976-77, and mortality data were collected for a period of 6 years after the interview. Participants were selected whose birthdays occurred on the 15th day of any month. They were then approached and, along with their spouse or roommate, interviewed. Approximately 20% of respondents refused or did not participate for some reason.

The measure of social support used was structure-based and comprised respondents' listing of individuals in their network and the frequency with which they visited each person. This yielded an estimate of the number of sources of social contact and the frequency of contact with each source. These investigators generated a "social network interaction index" with a total score ranging from 0 to 106. Information was also collected on long-term illness and disability, socio-economic status, and health risk behaviors.

Respondents were divided into low, median, and high groups of support. In all age groups except the oldest (65 to 74), for both genders, mortality rates were highest in the lowest supported groups. There were no differences in mortality between the middle and high support groups (similar to the Tecumseh and Georgia data). For women in the 65-74 age group, those with the highest support also had the highest mortality! Although the cell size for this group was relatively small (n=84) it appears that this finding is parallel to the Alameda and Evans county females under 60. This relationship for certain groups of females (but not for males) is somewhat puzzling.

The studies described above are quite key ones in the field of research on mortality, both in terms of their size and findings. There are some general associations between social support and mortality, yet some conflicting assertions as to whether the relationship holds for both genders and whether the association is similarly strong for all ages. The Alameda county and Sweden studies found a linear relationship between

mortality and social support for both sexes (except in 50-59 and 65-74 year old females). In Tecumseh county, the relationship held only for **males**; and in Evans county, the relationship only held for males and females **over 60**. However, none of the large-scale epidemiological studies reviewed included a measure of perceived support, nor did any of them mention a measure of mental health: inclusion of just these two variables may have provided insights which could have answered some of the anomalies, as well as some idea of the psychosocial processes involved.

Studies that include measures of mental health, perceived social support, and physical health are surprisingly sparse. In an earlier epidemiological study of 331 elderly (Blazer, 1982) it was shown that the most indicative predictor of mortality in terms of social support was perceived social support. However, this study gave no clear indication of whether this was more salient for men or for women.

Social Support and Morbidity

Most of the investigations in social support and morbidity center around the associations between health behavior and cardiovascular responses. As well, with the emergence of the new field of psychoneuroimmunology, research into social support and immunity is increasing. Indications seem to be that the relationship between strong social support and lower morbidity exists, but that there are also difficulties in finding this to be consistent for all groups.

Studies in this area generally show attenuated blood pressure, heart rate reactivity, or stress hormones (such as cortisol) in men and women who are supported during times of stress. However, discrepancies exist as to whether these responses are stronger for men or for women, and not all studies examine members of both sexes. Seeman and Syme (1987) assessed the relationship between social support and heart health in hospital patients. Their study of 119 men and 40 women (aged 30 to 70) was comprised of people who were referred for angiography with a diagnosis of angina pectoris, coronary artery disease, or recent myocardial infarct. Results from their combined analyses of men and women indicate that network size and emotional support were not significantly related to any of these conditions, but that the function-based measures of instrumental support and perception of "feeling loved" were significantly related.

Several recent studies have indicated the importance of deficits in social resources as additional risk factors for cardiovascular-related mortality (House, Landis, and Umberson, 1988). Patients with myocardial infarction who lived alone (Case, Moss, and Case, 1992) or who had limited emotional support (Berkman, Leo-Summers, and Horwitz, 1992) were at increased risk for death after myocardial infarction. As well, patients followed after coronary angiography or angina pectoris and who were not married or lacked a "confidante" (Williams, Barefoot, and Califf, 1992) or who had limited emotional support (Orth-Gomer and Unden, 1990) were at significantly increased risk for death.

As evidenced in the Alameda study, the link between social support and mortality indicates that being married may be better for you than not being married, particularly for men. However, in the morbidity literature, the findings are less clear and even contradictory to this assertion. Some studies show that discord within the marital relationship can be shown to raise blood pressures more in men than in women (Brown and Smith, 1992) and as well have serious consequences for men's immunity (see Keicolt-Glaser, Kennedy, Malkoff, Fisher, Speicher, and Glaser, 1988). Other research shows that it may be women who are more cardiovascularly susceptible to the salutogenic effects of social support (Kirschbaum, Klauer, Filipp, and Hellhammer, 1995). In fact, women may also be more likely to show greater levels of the stress hormone cortisol when their **spouses** attempt to give social support, but not when **strangers** do (Kirschbaum et al, 1995). Thomas, Goodwin, and Goodwin, (1985) found that women's immunity was more likely to be influenced by social support. Other research shows that social contact had very minimal effect on indicators of immune system effectiveness (Keicolt-Glaser, Glaser, Williger, Stout, Messick, Sheppard, Ricker, Romisher, Briner, Bonnell, and Donnerberg, 1985).

Thus, research is unclear as to whether social support is more effective for men or for women. Several factors could be seen as contributing to these "muddy waters." Measures of social support and health status differ between studies. Few studies explore the perception of the support. Measures of mental health are not consistently included. As a result, it becomes difficult to make any clear assertions about what aspect of social

support operates in a particular aspect of health, not to mention the issue of to whom it is most likely to apply.

Gender and Social Support

Further clarity into the differences in the effectiveness of social support for men and women's health may be gained by examining research on the nature of men's and women's support networks. Certainly, speculation leads to the assumption that men's' networks would differ from women's in terms of structures, functions, and even the perception of what would be deemed supportive. However, it is important to mention that few studies on social support and physical health include a specific and detailed analysis of gender differences. As is shown below, research that does exist seems to confirm that men's and women's support groups differ in terms of structures, functions, and whether there are provider and recipient roles.

Gender Differences in Support Structure

Generally, men tend to have less intensive networks than women. (Shumaker and Hill, 1987). Women are more likely to have emotional "confidantes", and to have more of them, than men. As well, studies indicate that women are more likely than men to receive assistance from family members other than a spouse, and more likely to receive assistance from friends as well (Chappell, Segall, and Lewis, 1990). Men's networks generally are smaller both inside and outside the household, and most often, the person

deemed as the man's confidante is his spouse (Chappell et al, 1990, p. 228). Given the probability that men will have smaller networks than women, and will be less likely to have any one else than their spouse as a main confidant, it has been argued that "...men can easily become isolated when the traditional marital role is disrupted and there is no wife to maintain the supportive links" (Antonnucci and Akiyama, 1987). This is consistent with previously shown research on mortality (the Alameda study) which suggests unmarried men are more likely to succumb to an early death than married men. Belle (1987) reports that women are more likely to engage their support networks during times of stress than men. In contrast to these findings however, Krause and Keith (1989) found that elderly men and women become equally involved in their social networks during times of stress. However, men's support networks tend to be focused on their spouses for all types of support (Belle, 1987).

Gender Differences in Support Functions:

With the structure of men's and women's networks seemingly being different, research indicates that the functions of that support may also be different for men and women. Women's networks are more wide-ranging in the functions that they provide (Antonucci and Akiyama, 1987). Women report receiving more emotional and health-related support than do men, and conversely, men's social participation in their networks tends to be less emotional than women's (Shumaker and Hill, 1991, p. 107). Further, and perhaps counter-intuitively, studies across the life span suggest that women are more likely than men to be both support providers and support recipients.

Gender Differences in Support Donor/Receiver Roles

As noted by Krause and Borawski-Clark (1994), the ability to be involved in the support of someone else may be an important component in the self-worth of the elderly. Studies indicate though, that women are more often the ones doing the supporting, and men are more often the recipient of support (Shumaker and Hill, 1991). In general, women were more likely to be involved in all forms of help giving than men (Shumaker and Hill, 1991).

In sum, how are these gender differences in social support relevant to the gender, social support, and health relationship? There are several possibilities. First, men's greater reliance on a single confidant, together with a smaller network, may make them more vulnerable than women. On the other hand, women tend to be the source of support for other women or other men, and therefore they may be subject to more stress from their commitments to support others (Rook, 1984). However, women's mortality rates are **lower** than men's at all age groups in most developed countries (Verbrugge, 1989). Women tend to live longer than men, yet they report having illness more often than men do (Verbrugge, 1989). Women have higher overall rates of illness, prescription drug use, physician visits, as well as chronic illness rates than men. Thus, it may seem that women's greater likelihood of having support may not prevent greater morbidity, but may play a role in lesser mortality. Social support networks may result in men having different health behaviour, health reporting behaviour, and different risks than women (Verbrugge, 1989).

General Critiques of the Studies on Social Support and Health

Research on social support and physical health is abundant. However, there are several directions which need to be pursued in research on perceived social support and physical health in older men and women. One of these directions lies in the consistent inclusion of mental health variables. Although a measure of mental health would have seemed to be indicated in the morbidity and mortality studies reviewed earlier, this aspect was rarely mentioned. If the model that we are using is one of social support extending its influence through an increased positive attitude or outlook, which increases host resistance to disease (Berkman, 1982) then the next logical step is to take some examination of the subject's attitude towards themselves. Thompson (1993) views mental health as the "essential thread" in our lives as well as our general health. Not only is "loss of mind" seen to be more disabling than any other condition to Edmonton residents, it is a vital factor in avoiding the emergence of many health problems (Thompson, 1993). Psychological variables in illness are being increasingly studied and considered viable methods of reducing or avoiding illness. Shaffer, Graves, Swank, and Pearson (1987) followed medical students who were healthy through to adulthood. Those with poor social connections and poor ability to express their emotions were 16 times more likely to eventually develop cancer than those who displayed acting out/emotional behaviour. In follow-up research on women who had breast cancer, those with a "fighting spirit" and positive problem-solving approaches survived significantly

longer, and had less recurrences than those who tried to maintain a "stoic" approach, or a "helpless" style (Greer, Morris, and Pettingale, 1979).

Positive problem solving and coping styles (such as optimism, assertiveness, internal locus of control) have been associated with better metabolic control over diabetes and rheumatoid arthritis (Thomason, Brantley, Jones, Dyer, and Morris, 1992; Devins, Edworthy, and Guthrie, 1992), as well as coronary heart disease (Meyers and Dewar, 1975; Booth-Kewley and Friedman, 1987). Some estimates are that between 40% to 60% of outpatient visits to general practitioners are due to psychological factors rather than physical causes (Bland, Newman, and Orn, 1990).

Although mental health can be viewed as multifaceted, perhaps one of the best indicators of overall mental health is self-esteem. Writers and researchers such as Rosenberg (1979), Coopersmith (1967), and Branden (1983) state that one of the most important measures of an individual's self-identity and overall mental health is the concept of self-esteem. A key association in the degree of success in managing aversive life and health events may lie in maintaining a relatively high level of self-esteem: continuing to believe in oneself as a good person. Rosenberg (1979) defines self-esteem as the degree of positive or negative attitude towards oneself. Therefore, when one is said to hold high self-esteem, he or she holds a fundamental self-appraisal of being a person of worth. It forms a cornerstone for the overall picture of good mental health: an acceptance of oneself and one's actions, an ability to give and receive in relationships, and an appropriate level of self-confidence. Conversely, the term "low self-esteem"

means that the individual lacks self-respect, considers himself "unworthy, inadequate, or otherwise seriously deficient as a person" (Rosenberg, 1979, p. 54).

As self-esteem is important in the general sense of feeling appropriate to life and comfortable with oneself, it has been shown in the literature to play as much of a key role in the actual management of situations. Self-esteem has been associated with successful management of change and challenges (Swann and Predmore, 1985). Perlin and Schooner (1978) noted that feelings of positive regard for oneself were significant in reducing stress. Moderately strong correlations have been shown between level of self-esteem and coping (Johnson, Lund, and Dimond, 1986). Good self-esteem has also been shown to be related to positive problem-solving behaviors (Rusbult, Morrow, and Johnson, 1987), solving communication problems (Glauser, 1984), as well as a good level of interpersonal involvement (Myhill and Lorr, 1988). With these associations of skills to self-esteem in mind, it is not difficult to imagine an augmentation of problems when self-esteem begins to suffer.

Some of the casualties of low self-esteem may include physical health. While increased self-esteem may result in improved physiological responses, improved motivation to pursue healthy lifestyle options, or combinations of both (Cohen, 1988), low self-esteem can have the exact opposite effects. Self-esteem has been shown to be related to high-risk health behaviours in adolescents, such as alcohol and cigarette usage (Dolcini and Adler, 1994; Neff, Prihoda, and Hoppe, 1991); health behaviours in single mothers (Duffy, 1994); nutrition styles and weight gain in first-year college females

(Megel, Wade, Hawkins, and Norton, 1994); and ill health during unemployment (Hutchings and Gower, 1993).

How can self-esteem be protected? Theorists and researchers alike have discussed the maintenance of self-esteem. They have noted the attempts that the self makes in protecting it's own picture through some types of defence or maintenance mechanisms, such as denial (Rosenberg, 1979, p. 260). Yet the presence or absence of relationships and social support can go a long way towards the maintenance and stability of self-esteem amidst challenges (Swann and Predmore, 1985). It has already been noted that the elderly may indeed be at higher risks of facing some of these challenges, and this would seem to push them towards relying on friends and support networks. It is a characteristic fact of aging that amidst these compounded changes in health status and income status an elderly person may not face as direct a linkage to the social networks in comparison with other age groups. Widowhood and retirement can directly remove support networks. Health and sensory limitations can often present obstacles in accessing remaining networks. The decreased access to these networks may form part of the challenges towards maintaining self-esteem. With these hurdles in mind, there are reasons to expect variations in self-esteem as one ages.

Physical Health, Self-esteem, and Social Support in Older Adults

The limited research that has combined all four variables of self-esteem, physical health, social support, and the elderly has produced mixed results. One of the few integrated and comprehensive studies of the role of social support in conjunction with physical health and mental health comes from Haug, Breslau, and Folmar (1989). A nine

year follow-up study involved a random selection and subsequent tracking of 1,598 participants aged 65 and over. Initial interviews were held in 1975, and final interviews were held in 1984. Measures included self-assessed emotional health, and levels of distress; structural measures of social support including household composition, children in the area, frequency of social contacts, loneliness, and perceived availability of care; and finally, self-assessed rating of physical health (a simple four-point scale ranging from poor to excellent). The authors included a measure of change in level of social support between 1974 and 1984. Although this study would have been very informative as far as exploring the causal pathways for the role of social and emotional factors in physical decline, the authors did not distinctly set out to examine these relationships. Their study gives some evidence that although measures mental health and cognitive skills played a major role in predicting mortality, even taken together they are less powerful than the availability of social resources. One of the more noticeable effects was that cognitively impaired white males were the least likely to survive over time, regardless of social resources! A leading factor in predicting cognitive decline was age, followed by physical health and social resources level.

Caserta and Lund (1993) investigated the role of social support in the emotional health of 339 elderly adults who were recently bereaved. Although this study did not specifically intend to investigate mortality or morbidity nor differences by gender, it did show that intrapersonal resources (such as self-esteem, life satisfaction, personal skill competencies) were more influential than social support in reducing some of the somatic complaints (including headaches and fatigue) as well as the emotional grief of spousal

bereavement. Ho, Donnan, and Sham (1988) studied precursors of somatic complaints in a sample of Hong Kong elderly. Their research showed several factors increased the risk of developing a high level of psychosomatic symptoms. These included being female, reporting a low level of support, and having a low level of self-worth.

Research that combines all variables can provide more explanatory power as we try to understand the nature of social influences on men's and women's health. The research provides some consistencies and some inconsistencies. There is a need to improve research designs to be more inclusive of certain populations as well as aspects of human psychological well-being. Integrating an understanding of how networks change over time is an absolute essential if we are to effectively deal with the aging of our society.

CHAPTER 3

Method and Procedure

We sought to examine the proposed questions using data collected during the 1989 Saskatchewan Aging and Health Study (D'Arcy, 1989). The author was involved in the interviews, data collection and entry, as well as management and analysis of the dataset.

Study Design and Participants

Target participants for the study were 1345 randomly selected, non-institutionalized men and women from central Saskatchewan. Residents were strata-sampled from provincial healthcare database records, based on age groups of 55-64, 65-74, and 75 and older. After deletions due to deaths, non-locatable participants, participants who had moved into care facilities, and those hospitalized for illness (n=294), the study yielded an eligible target group of 1051. Of these 1051, there were 263 refusals to participate (25% of eligible group). The final sample interviewed for the Saskatchewan Aging and Health Study was 788 people (75% of eligible target group of 1051), which was comprised of 381 men and 407 women. After the interviews, these people were given questionnaires to complete. 683 of those interviewed (87%) returned their questionnaires (table 1). Although arduous attempts were made to gather all information, some of the respondents who did return their questionnaires occasionally omitted items. As will be shown in the results, this produced varying sample sizes for some of the analyses.

Table 1: Participants in the Saskatchewan Aging and Health Study (D'Arcy, 1989)

Random strata sample from provincial healthcare database	→	Contact eligible and locatable subjects	→	Interview consenting subjects, then give questionnaire	→	Subjects mail back questionnaire
(n=1345)		(n=1051)		(n=788)		(n=683)

The 788 interviews took place in the participants' homes and lasted approximately 2 hours. Interviews were standardized and structured, designed to gather information on a wide range of aspects of the lifestyles, mental and emotional states, physical health conditions, and social well-being of the interviewees. After the interview, participants were given a self-report questionnaire to fill out on their own and mail in when finished (see table 1). Participants who had sensory or motor limitations that may have prevented them from completing the questionnaire alone were assisted by an interviewer. Full copies of the interview schedules and questionnaires are available from the writer, or from Applied Research at the University of Saskatchewan.

All data from the Saskatchewan Aging and Health study was coded using standardized coding manuals. Then the data was entered twice (for accuracy) into a data file using the data entry program of the Statistical Package for the Social Sciences, SPSS-DE. For the present study, all data used (except the demographic information) was contained in the questionnaire portion of the 1989 study database.

Sample Demographics

The average age of the 788 who were interviewed was 69.7 years, and the average length of education was 10 years. 67.4% of the sample reported being married, 20.9% were widowed, and the remainder were single or divorced. Most (70.9%) reported an income below $30,000, with the median income lying in the $15,000 to $20,000 category. The majority of the sample (74.6%) reported owning their own home. Nearly all (93.9%) reported English as their preferred language.

Demographics for those who fully completed the questionnaire portion of the study differed somewhat from those who were interviewed. As an example, those people who did not complete the self-esteem scale were likely to be significantly older (average age of 73 years, $p<.001$), and less educated (average of 8.8 years of schooling, $p<.001$) than those who were interviewed.

Variables Used in this Study

Four specific sections of the dataset were used for this study: demographic sections; a measure of perceived social support called the Personal Resource Questionnaire (Brandt and Weinert, 1981); the Rosenberg Self-Esteem Scale (Rosenberg, 1979); and three scales measuring health status.

Demographic Data

Participants were asked a variety of questions related to demographic information. Data was collected with regard to age, gender, type of housing arrangements and number of people in the household, marital status, religious and

ethnic background, years of education completed, primary language, income level, and satisfaction with income level.

Social Support

Brandt and Weinert's (1981) Personal Resource Questionnaire (PRQ) is a fairly extensive measure of social support involving two parts. The first part provides descriptive information about the person's resources, the satisfaction with these resources, and whether or not there is someone who could be called a "confidant". Part two contains 25 Likert scales that contain statements about perceptions of their social support. Some examples are "There is someone I feel close to who makes me feel secure," "There is no one to talk to about how I am feeling," or "If I got sick there is someone to give me advice about caring for myself". Internal consistency reliability (alpha) for this scale is .89 (Brandt and Weinert, 1981). For this study, only part two of the scale was used (perception of feeling supported). A copy of the PRQ is contained in the appendices of this research.

For each individual, responses to the 25 items were summed to create a total score for perceived social support. Maximum possible score for the scale was 200 and minimum was 25. Those individuals who missed one or more items of the scale were not included in the analysis.

Self-Esteem

The Rosenberg Self-Esteem Scale (1979) contains ten Likert scales that are a general, global measure of self-esteem (a complete version of this scale is contained in

the appendix). Respondents were asked to strongly agree, agree, disagree, or strongly disagree with ten statements about themselves. An example is "On the whole, I am satisfied with myself." Rosenberg (1979) reported an alpha coefficient (internal reliability) of .85, and a reproducibility coefficient of .92. Byrne and Shavelson (1987) reported an alpha of .87, and Byrne (1983) reported a convergent validity of .604 with the Coopersmith Self-Esteem Inventory. Silber and Tipett (1965) reported a test-retest coefficient of .85 for 28 college students over a 2 week period.

The standard scoring procedure for the Rosenberg Scale was used (Reynolds, 1982). Responses for each item were converted into a four point measure, where a score of 4 indicated strong self-esteem on the particular item, and a score of 1 indicated poor self-esteem. The scores for five of the items (statements 1,2,4,6, and 7) were reversed to satisfy congruency with the scoring format. Therefore, for the entire scale, the highest possible score for a person with strong self-esteem is 40. The lowest score, reflecting very poor self-esteem, is 10. For this study, it was decided that no statistical efforts to salvage data would be made, and therefore individuals who did not indicate a response to one or more of the items on the Rosenberg Self-Esteem Scale were not included in any analyses.

Physical Health

Physical health was assessed using these measures: a global rating of one's overall health; one's usage of medical services; and a general checklist of health conditions (see appendices). All measures were coded with increasing values reflecting increasingly poorer health. The global measure of health status and the use of health

services were derived from Statistics Canada surveys such as the Health Promotion Survey and the General Social Survey-Cycle 6. The global measure asked the subject to rate their own overall health, choosing from five categories ranging from excellent to very poor. A value of 1 was assigned to "excellent," a value of 2 to "good," and so on, whereby a value of 5 was assigned to "very poor." Usage of medical services was determined by the number of reported visits to a health professional in the past 12 months. The checklist of health conditions required the respondent to survey 18 possible health conditions and identify those they were experiencing. This section was summed to yield a symptom total. However, from this list, 3 conditions were not included: convalescence from surgery, head injuries or deformities, and poor hearing. These conditions were seen as items that could not have been associated with a lack of social support.

Statistical Procedures

Permission to access and analyze the data was granted from Dr. Carl D'Arcy, Director of the Applied Research Unit at the Department of Psychiatry, Royal University Hospital, Saskatoon. The dataset was downloaded to the University of Alberta via electronic mail. A primarily correlational and inferential statistical analysis (including t-tests) was carried out using SPSS. Significance was acknowledged at the $p.<.05$ level, and in the tables that follow, actual probabilities will be reported. SPSS analyses were run with pairwise deletion, a procedure that essentially deletes from analyses cases which

are missing any values in the variables being analyzed. This resulted in varying sample sizes in the tests of hypotheses.

Summary and Research Questions

Research generally shows a connection between having quality social networks and mortality or morbidity in older adults. Yet, variables such as perception of social support and self-esteem have not been consistently included in research in physical health and gender differences in older adults. Inclusion of these two variables may be valuable in shedding light on this relationship. Based on the review of existing research, the predicted hypotheses are listed below. In these hypotheses the term "significance" is used to imply statistical significance at the .05 level of probability.

1. Perceived social support will have a significant correlation with physical health.
2. Women will report significantly more perceived social support than men.
3. The relationship of perceived social support and physical health will be significantly stronger for women than for men.
4. Perceived social support will have a significant correlation with self-esteem.
5. The correlation between social support and self-esteem will be significantly stronger for women than men.
6. Self-esteem will be significantly correlated with physical health, for both men and women.

CHAPTER 4

Results and Discussion

Tests of each of the hypotheses were conducted. Results of each test will be presented, followed by a discussion section.

Tests of Hypotheses

Hypothesis 1. Perception of social support will have a significant correlation with physical health.

A Pearson correlation was generated between total perceived social support score and each measure of health; overall self-rated health status, number of visits to a general practitioner in the past 12 months, and number of reported health problems.

Table 2: Correlation Coefficients Between Social Support and Health

	Perceived Social Support (Total Score)
Overall Self-Rated Health Status	r= -.21, p <.001 n=477*
Number of Visits to General Practitioner in Last 12 Months	r=.013, p<.78, n.s. n=479*
Number of Health Problems Reported	r=-.055, p<.28 (n.s.) n=395*

*In this table, as well as following tables, sample sizes vary according to number of complete scales available for each analysis. For example, the symptom checklist to develop "number of health problems reported" was a two-page scale and many participants did not complete all items.

The Pearson correlations between social support and the various health measures yielded variable results. For the **overall health rating**, the Pearson r was -.21 (p<.001)

indicating that perception of social support was significantly associated with a report of positive health status (table 3). The fact that the correlation was negative was due to the method of scoring the health items: higher scores were coded as reflecting increasing health problems. The **number of visits to the doctor** in the past twelve months was not significantly associated with social support (r=.013, p<.78.). Finally, the **number of health problems** currently being experienced and perception of social support was not significantly related (r= -.055, p<.28 .).

Hypothesis 2: Women will report significantly more social support than men.

Mean levels of perceived social support were calculated for male and female respondents. The significance of the difference between these means was examined using a t-test.

Table 3: Levels of Perceived Support Between Genders

Variable	Men (mean score) n=238	Women (mean score) n=242	Significance
Perceived Social Support	143.4 SD=20.0	148.4 SD=22.9	t= -2.55, df=478, p < .01

The t-test of the mean levels of social support reported by gender showed this hypothesis to be true. Women indeed reported perceiving more social support. As shown in table 3, out of a possible maximum score of 200, women reported a mean score of 148.4, while men reported a mean score of 143.4 (p<.01).

Hypothesis 3: The relationship between perceived social support and physical health will be significantly stronger for women than for men.

The significance of the difference between the correlations between perceived support and the overall self-rated health status was compared. The other two measures of physical health (number of visits to general practitioner in the last 12 months, and number of health problems reported) were not used because both measures showed insignificant correlations with perceived social support. Converting the 2 correlations to Fisher's Z allowed the difference between the correlations to be tested for statistical significance. Comparing the correlations by gender through conversion to Fisher's Z revealed the difference to be non-significant (Z=0.347, n.s.), therefore this hypothesis was not supported.

Table 4: Correlations Between Perceived Social Support and Overall Self-Rated Health Status by Gender

	Men n=238	Women n=239	Significance
Correlation between perceived support and self-rated health status	r= -.19	r= -.22	Fisher's Z=0.347, p< .37, (n.s.)

Hypothesis 4: Perception of social support will have a significant positive correlation with self-esteem.

A Pearson correlation coefficient between self-esteem and perceived social support was generated for the combined sample.

Table 5: Correlation Between Self-Esteem and Perceived Social Support

	Self-Esteem Score	Significance
Perceived Support Score	r= .46	p < .001, n=451

The strength and significance of this correlation supports the hypothesis that was tested.

Hypothesis 5: The correlation between perception of social support and self-esteem will be significantly stronger for women than men.

The correlations for men and women on these variables were compared using Fisher's Z.

Table 6: Gender Differences in Correlations Between Perceived Social Support and Self-Esteem

	Men n=231	Women n=220	Significance
Correlation Between Social Support and Self-Esteem	r= .48	r= .45	Fisher's Z=.538, p < .30 (n.s.)

Conversion of the correlations between these variables for men (r=.48) and women (r=.45) to Fisher's Z were actually unnecessary to reject this hypothesis, as the correlation was slightly stronger for men. However, conversion to Z and subsequent test of significance of difference revealed that the two correlations were not significantly different (Z=.538, n.s.).

Hypothesis 6: Self-esteem will be significantly correlated with physical health for both men and women.

This hypothesis was examined through generation of Pearson correlations for the entire sample between self-esteem and all three of the measures of physical health: overall self-rated health status, number of visits to a general practitioners in the past 12 months, and total number of health problems reported.

Table 7: Correlation Coefficients Between Self Esteem and Health

	Total Self-Esteem Score
Overall Self-Rated Health Status	r= -.34, p <.001, n=566
Number of Visits to General Practitioner in Last 12 Months	r= -.11, p<.01, n=561
Total Number of Health Problems Reported	r= -.19, p<.001, n=445

As table 7 illustrates, self-esteem was significantly related to **all** measures of health. Thus, this hypothesis was proven to be correct. However, a non-predicted finding emerged when examining the separate correlations for men and women on these two variables. The association between health and self-esteem was stronger for men, regardless of the type of physical health measure used (table 8).

Table 8: Correlation Coefficients Between Self Esteem and Overall Self-Rated Health Status by Gender

	Men's Self Esteem	Women's Self Esteem	Significance
Overall Self-Rated Health Status	r= -.42, p<.001 n=274	r= -.26, p<.001 n=282	Fisher's Z=-18.2 p<.0001
Number of Visits to General Practitioner in Last 12 Months	r= -.22, p<.001 n=273	r= -.03, p<.56 (n.s.) n=288	Fisher's Z=-2.3 p<.01
Total Number of Health Problems Reported	r= -.27, p<.001 n=218	r= -.12, p<.08 (n.s.) n=227	Fisher's Z=-1.65 p<.05

Additional Analyses

A structural equation model, or LISREL path analysis (Hayduck, 1987) was conducted on the data to investigate the possible causal directions in these relationships. However, this analysis yielded no support for a proposed model, and therefore was not included. (See appendix D for listwise correlation matrices, and structural equation models which were tested).

Discussion of Results

The correlational and inferential analyses provide differential support for the proposed hypotheses. A weak connection between social support and physical health, and a somewhat stronger connection between self-esteem and physical health was found. A discussion of the literature and the implications of the research findings for each hypothesis follows.

Perceived Social Support and Physical Health

The findings in the Alameda, Tecumseh, and Evans counties studies in the USA and the national study done in Sweden showed varying relationships between social support and mortality. Other smaller-scale studies have also indicated a connection between poor social support and increased risk of death after myocardial infarction (House, Landis, and Umberson, 1988; Case, Moss, and Case; 1992; Berkman, Leo-Summers, and Horwitz, 1992). There has also been a connection established between social support and morbidity. Poor social support has been shown to be related to chronic heart problems (Seeman and Syme, 1987), elevated blood pressure (Brown and Smith, 1982), decreased immune functioning (Keicolt-Glaser et al.,1988; Thomas et al., 1985), elevated stress hormone levels (Kirshbaum et al.,1995), and general overall ratings of health (Schwarzer and Leppin, 1989).

In this study, a measure of **perception** of social support was used. It has been argued that how people define support may vary (Chappell, Segall, and Lewis, 1990) and as such, the measure of the perception of social support may be one of the key elements to explore when researching social support (Schwarzer and Leppin, 1989). In addition to perceived social support, it's relationship to self-reported health measures was examined.

The relationship between perceived social support and physical health was supported in part. Results of the hypothesis test demonstrated that for the entire sample, perception of social support was significantly related to only the overall self-rated health status. The number of visits to a general practitioner in the past twelve months and well as the number of health problems reported were not significantly related to perceived

social support. The fact that perceived social support was not related to more "objective measures" of health (visits to the doctor, and number of health problems currently being experienced) is an interesting but unexpected finding.

This study illustrates that perceptions of social support and overall health may be related in a unique manner. The way one feels about one's health as well as the way one feels about his or her social support may be more likely to be associated because they both involve a subjective perceptual component. The fact that one's perceived social support status is **not associated with** certain means of measuring health status, such as visits to the doctor or reported health problems, could suggest that the utility of studying perceived social support with these supposedly more "objective" self-reported measures of health may be of questionable value. Interestingly, Schwarzer and Leppin (1989), in their meta-analysis of social support and physical health, indicate that most studies include the utilization of these more objective measures such as symptom checklists, and physiological reactivity indices. However, these measures are less associated with social support than overall self-reported general health status ratings (Schwarzer and Leppin, 1989). Thus, the present differential pattern of associations seem to be supported by current literature.

As well as the above problems, certain sources of error associated with survey data collection may have affected the results. These include issues of response bias, and attrition of respondents. For instance, in a situation where a respondent completes a questionnaire on their own, different sources of mistakes may occur. Participants could have easily filled in responses which over-estimated or under-estimated the number of

visits to the doctor. Without external sources of verification such as actual statistical information from the department of health, an interviewer to check for correct completion of questionnaires or to probe for further information, it is possible that some data would be incorrect. Therefore, the relationship between perceived social support and the measure of the number times the doctor was visited during the past 12 months may have been weakened. Likewise a similar problem could have occurred with the reporting of the physical problems, although one would suspect that a respondent would be less likely to forget current physical ailments. Essentially, without the possibility of actual verification of visits to the doctor or actual medical data regarding current health problems being experienced there could be sources of error in the data.

Attrition is another factor to be considered when interpreting the results. For instance, those individuals who completed the questionnaire fully were likely to be different than those who did not. That is, it is possible that the "complete responders" were self-selected in being slightly younger, more educated, and potentially in better physical condition than those who did not return their questionnaire or completed it incorrectly. For this group of "complete responders", it is possible that their perceptions of social support and physical health status may have varied in some way from those who did not respond to the scales, or who did not respond completely. This may have affected the correlations in some unknown manner.

Gender Differences in Perceived Levels of Social Support

It was hypothesized that women would report perceiving more social support than men. This hypotheses was based on current literature which included findings that men's

networks were less intensive than women's (Shumaker and Hill, 1987), women's network generally being larger (Chappell, Segall, and Lewis, 1990), and men's tendency to depend solely on their spouses for support (Antonucci and Akiyama, 1987).

Gender differences in mean levels of perceived social support reported on the Personal Resource Questionnaire were examined using t-tests. The results indicated that women perceived significantly more social support in their lives than men, lending support to the hypothesis. In the present study, women perceive their networks differently than men. This finding confirms current research that shows men have networks, regardless of size or functions provided, which are inherently different than women's. For instance, Shumaker and Hill (1991) found that men's social participation in their networks tends to be less emotional than women's. Therefore, men may feel less supported in their social networks. Women on the other hand, may tend to feel more supported. Definitions of social support can differ widely (Chappell et al, 1990). With these factors in mind is safe to say that whatever the men in this study perceived as support did not exist at the levels of that which the women perceived as support.

The measure of perceived social support, the PRQ may be open to criticism that it failed to evaluate all necessary constructs and components of social support. In turn, this question of construct validity may have inadvertently produced a gender bias. The questionnaire may have been biased toward an under or over-representation of certain areas of social support. The authors of the PRQ (Brandt and Weinert, 1981) state that the development of the scale was based on evaluation of five aspects of social support: intimacy, social integration, nurturance, worth, and assistance. It may have been the case

that the questionnaire evaluated aspects of support which were similar to those which women perceived as support. The authors give very little information about the development of the items for the scale, and thus it become difficult to evaluate the gender-equitability of the scale. It is possible that certain types of support such as emotional support are more important to women than to men. As such the issue of questionnaire bias must be taken into account when interpreting the present findings.

Gender Differences in Perceived Social Support and Physical Health

Research shows connections between social support and health for both men and women. However, attempts at clarifying whether the association is stronger for men or for women have been unsuccessful (Shumaker and Hill, 1991). It has been asserted that men who are unmarried or have poor social support are more susceptible to an early death (Berkman and Syme, 1979), high blood pressure (Brown and Smith, 1992), and decreased immune functioning (Keicolt-Glaser et al, 1988). Women with poor social support have also been found to be more susceptible to cardiovascular health risks (Kirschbaum et al, 1995), and decreased immune functioning (Thomas et al, 1985). Although research has lacked consistent findings (Shumaker and Hill, 1991), the general assertion seems to be that social support is to some degree related to physical health. Together with current research that suggests women have greater social support networks (Krause and Keith, 1989) the hypothesis was made that women would show a stronger correlation between social support and physical health.

Differences in gender-separate correlations between perceived social support and overall self-rated physical health status were tested, and no support was found for the predicted hypothesis. As well, no difference was found in the correlations of both men's and women's perceived social support and their ratings of physical health. As Shumaker and Hill (1991) suggest, the lack of consistent patterns regarding gender differences in social support and physical health is a concern for researchers. The present research provides evidence for gender similarities in the connection between perceived social support and health. This finding prompts consideration of similarities that may exist between health and social support for men and women.

In light of the fact that women reported greater levels of perceived social support and yet reported greater numbers of visits to the general practitioner than men (table 9, rows 1 and 3), one would wonder why a difference between the correlations was not discovered. Although there seem to be very different processes occurring between perceived social support and physical health for men and women, this fact was not reflected in the correlations.

Table 9: Comparisons by Gender

Variable	Men (mean score)	Women (mean score)	Significance
Total Perceived Support	143.4 SD=20.0	148.4 SD=23.0	t=-2.55, df = 478, p=.01
Total Health Symptoms Reported	1.7 SD=1.5	1.8 SD=1.4	t=-.85, df=524, p=.40
Number of Visits to General Practitioner in Past 12 Months	7.9 SD=20.2	12.2 SD=26.0	t=-2.18, df=538, p=.03
Overall Self-Rated Health Status	2.11 SD=.8	2.03 SD=.8	t=1.09, df=554, p=.07

It may be that for some women, the physician is an important part of their perceived social support, and they may make more trips to the doctor in order to stay in touch with an important part of their network. This possibility could be co-existing with other women who perceive adequate social support but do not involve their doctor in their perception of support. In this sense, a correlational analysis may be in fact "muddying the waters" where those women with high perceived social support may be going to the doctor more often. However, the fact remains that women report more perceived social support, yet also show significantly more trips to the doctor in a year. For men, it may be that the physician is not perceived as an important part of their social support, therefore they make fewer trips to the doctor. The association between perceived social support and a measure of health, such as number of visits to a general practitioner in the past 12 months, may be different for men than for women (see table 9, row 1 and 3).

Another reason why the correlations did not differ may lie in statistical theory, and the variance of scores. With correlations hovering near the -.20 range for men and women between perceived social support and overall self-rated health status, it remains that a very small percentage of the variance in scores is accounted for. That is, approximately 4% of variation in physical health ratings can be attributed to a connection to perceived social support. The reverse is also true: approximately 4% of the variation in perceived social support scores can be attributed to physical health status. The correlations are simply too low, although significant, to expect perceived social support

to be the only contributing variable to health status ratings. Several other major or minor players in the relationship may be interfering with the statistical relationship. For example, it could be the case that for those in the lower end of the age groups used for this study (55-64) the relationship between social support and health differed from that of the upper age range (75 and older). As Krause and Keith (1989) and Schwarzer and Leppin (1989) discuss, it may be that social support plays more of a vital role as people get older. Thus, the correlational analyses performed in this study may reflect an aggregation of several underlying trends, both for men and women.

Social Support and Self-Esteem

Psychosocial process models of social support state that the value of social support may lie in its ability to bolster the self-concept (Cohen, 1988; Speigel, 1993). A person's perception of being accepted and supported by others is an important part of a positive self-evaluation and good self-esteem (Branden, 1983; Coopersmith, 1967; Rosenberg, 1979). Therefore, the hypothesis was made that self-esteem and perceived social support would be significantly associated in men and women.

Relatively strong support for this connection was found. These findings suggest that feelings of being supported are closely tied to one's self-esteem. Myhill and Lorr (1988) noted that self-esteem was significantly related to "interpersonal involvement" in adults. Many theorists have noted the importance of good social relations in developing a healthy self-concept (Rosenberg, 1979).

However, there may exist a similarity in the perceptual styles an individual uses to evaluate aspects of themselves. The possibility exists that the perception of self-esteem is very closely related to the perception of social support. Conversely, a negative self-perception may translate into feeling that one does not really have much support, even if family members or friends are involved. Beck's classic depressive "cognitive triad" (1967) states that the individual's mood and cognitive style play a vital role in colouring his or her view of self, the world, and the future.

These cognitions and perceptions can also be associated with behavioural factors that may serve to reinforce particular perceptions. The assuredness and contented nature of a person with positive self-esteem may actually work to draw one's social network closer together. Behaviours spurred by a negative self-concept may also work to cause one's network to dissipate, such as the depressed person who pushes others away with his or her negative interactive style and comments (Myhill and Lorr, 1988). These dynamics may be involved in influencing the results of the present study.

Gender Differences in Perceived Social Support and Self-Esteem

Women report higher degrees of involvement with their social networks (Chappell et al., 1990). In addition, women's self-esteem has been said to be more influenced by social variables than men's self-esteem (Rosenberg, 1979). Following from these findings, the prediction was made that the relationship between perception of social support and self-esteem would be significantly stronger for women.

Correlations between perceived social support and self-esteem were generated for men and for women, and the highest correlations in the study emerged. However, a test

of the difference between men's and women's correlations was insignificant, and therefore this hypothesis was not supported. The fact that men's connection between perceived social support and self-esteem was as strong as women's provides evidence that is somewhat contrary to the findings in the literature. While females have been shown to consistently rate social variables (such as approval) as being very important to them, and more consistently identify themselves with their social identity (Rosenberg, 1979), the present research indicates that social variables, such as perceived social support, are as strongly associated with self-esteem for men as for women. This finding contravenes much of "traditional" views of men as being more independent than women (Rosenberg, 1979) or of social support as potentially being less important for men than women (Schwarzer and Leppin, 1989).

Self-Esteem and Physical Health

Other significant findings of the present study were found between self-esteem and the physical health measures. Based on research showing the importance of self-esteem in health-promoting behaviours (Dolcini and Adler, 1994; Neff et al., 1991; Duffy, 1994; Thompson, 1993), nutrition styles and weight gain (Megel et al., 1994) and models of self-esteem increasing host resistance to disease (Berkman, 1982; Speigel, 1993; Thompson, 1993; and Cohen, 1988), the hypothesis was made that self-esteem would be associated with physical health. The need to include mental health variables (such as self-esteem) was deemed essential to add to existing knowledge in health psychology.

The correlations between self-esteem and the three measures of physical health gave clear support for the hypothesis. Self-esteem was associated with overall self-rated health status, the number of visits to a general practitioner, and number of health problems reported. This finding provides further evidence for the association of self-esteem to physical health. In fact, self-esteem was much stronger and more globally related to the measures of physical health than was perceived social support. Although Haug et al (1989) stated that social support was more strongly related to mortality than mental health measures, the present research supports findings that **intrapersonal resources** such as self-esteem may be more influential than social support in relation to health condition (Caserta and Lund, 1993).

However, correlations that were produced for the group as a whole seem to have been masking a significant gender difference. Very distinct correlations occurred for men and women separately (table 8). Men showed a much stronger correlation between their self-esteem and their measures of health status than did women. In addition, men's self-esteem was more globally related to health in that it was significantly associated with all of the health measures in this study, while women's self-esteem was only associated with one measure of health; the overall self-rated health status. This implies that physical health status may have more drastic implications for men's self-esteem than for women's self-esteem.

General Discussion of Results

This study has examined the relationships between perceived social support, self-esteem and certain measures of physical health. Results showed that **self-esteem** may be better than perceived social support in predicting physical health status, and this indicates that self-esteem may play a more important role in maintaining good physical health. Therefore, the inclusion of self-esteem in future research on social support and health must be seen as essential. As the results of this study show that health and self-esteem are much more connected for men, further exploration of the self-esteem and physical health connection is warranted particularly in the area of gender differences in older adults.

In addition to the issue of the importance of self-esteem, this study has examined the role of **perceived social support**. Perceived social support was *equally* associated to self-esteem for men and women. Perceived social support was *also equally* associated to overall self-rated health status for men and women. *However, men reported less perceived social support in their lives.* This may mean that while social support is as important for men as for women, men seem to have less of it. This perceived "lack of nourishment" in men's social support systems may be associated with some health and self-esteem problems.

CHAPTER 5

Limitations, Implications, and Conclusions

The present research found support for the associations of social support and self-esteem in physical health. For men, perceived social support was more strongly associated with their health status measures. Findings in this study may viewed as quite significant in terms of their implications for gender differences in social support, and the relationship of self-esteem to physical health. However, certain issues in the study design and analysis must be kept in mind.

Although arduous attempts were made to collect all data during the original study, portions of the originally interviewed 788 subjects failed to return or incorrectly completed their mail-in questionnaires. The majority of the data used for this study emerged from those questionnaires. Analysis of the differences between responders and non-responders indicates that the possibility exists that the information used for this study came from a slightly younger, more educated sample than the entire group as a whole. As the chances of experiencing some type of health troubles increases with age, the respondent sample may have been physically healthier. This possibility is also increased due to the fact that the Saskatchewan Aging and Health Study (1989) purposely did not include people living in long-term care homes, nor in the hospital. It is difficult to speculate what the addition of the complete respondent pool may have added to these

results. Further research designed to examine roles of social support and self-esteem in physical health should place such measures in the interview portion of a study, where they would be less subject to incomplete responses and general attrition.

Furthermore, a correlational analysis precludes the ability to confirm any particular direction of causality. Yet with concepts such as perceived social support, self-esteem, and physical health, it is possible that causal influence would not be unidirectional. Concepts such as these are quite likely reciprocal in nature for most people. Future research could be designed to attempt to "predict the risk" of incurring health problems according to levels of perceived social support and self-esteem. This would entail assessment of perceived social support, self-esteem and baseline health status at one point in time, followed by a later follow-up interview where the same measures were taken. This type of study design would do much to clarify the role of self-esteem and perceived social support in the physical health of older men and women.

As the data were collected 6 years ago, questions may arise as to whether the findings can be applied to seniors in 1995. Estimates would be that although the cohort of the same age group of seniors, if interviewed today, may differ minimally from those of 6 years ago. However, it is worth considering that part of the reason that the differences between the present study and the findings of the large-scale epidemiological studies of the 70's and 80's may be due to the different composition of the cohort groups. Changes in certain values and the emergence of a North American culture which emphasizes individuality as opposed to collectivity may be partially responsible for what seems a somewhat decreasing importance of social support (as evidenced in this study).

However, with the slight economic downturn of Canada during the late 80's and early 90's and government cost-cutting of social programs, it may be that the need for a hearty support network actually has increased since the original data were collected.

In any case, it seems that social support and self-esteem are important aspects of health in the elderly. Maintaining physical health in older adults may be best approached by a multi-pronged focus which attempts to include activities to bolster self-esteem, and improve perceived social support. Older adults could be educated as to the potential physical benefits of maintaining good social support and self-esteem. In facilities where activities can be scheduled for older adults, activities could be designed to specifically target areas which are central to feelings such as self-efficacy, worth, meaningfulness, productivity, and ultimately their self-esteem. In addition, interpersonal activities in the lives of older adults could be utilized as a means of achieving adequate levels of perceived social support. For those who are experiencing health problems and are unable to leave their home, social ties can easily suffer and efforts to prevent this could be developed. For example, home visitation programs for those who are unable to leave their residence may be valuable in bolstering perceived social support. Methods of maintaining self-esteem and social ties for the ill and for the healthy must be examined in future research.

Furthermore, the present study indicates that men are different from women. Older men's physical health is more likely than women to be closely tied to their self-

esteem, which has several implications. To be male and ill may more drastically affect self-esteem. In addition, conditions which decrease men's sense of self-esteem may be closely followed by problems in physical health. However, for women, the weaker connection between self-esteem and health may mean that their self-esteem may have more "tolerance" of health problems. It may also indicate that women may not be as likely as men to become ill if they have low self-esteem. Further, a combination of several factors may be involved that affect whether health problems result in low self-esteem.

Social support is just as important to men's mental and physical well-being as it is for women, but this study shows that the amount of perceived social support may not result in fewer visits to the doctor for women. Both men and women reported similar overall levels of self-esteem and overall health ratings, but women made significantly more trips to the doctor in a year. Are women more vigilant about their physical health, regardless of whether they actually experience more health problems than men? Or, are women maintaining contact with an important part of their perceived social support? In light of the possibility that men are even more likely to have their self-esteem suffer when their health begin to fail them, perhaps it is **men** who should be making more trips to the doctor. In this study, perceived social support formed a very weak link compared to self-esteem in predicting overall self-rated health, and therefore predicates the assumption that social support may not be the ultimate Generalized Resistance Resource (Antonovsky, 1987) in fending off illness. However, self-esteem may be such a resource,

and the results of this study show that social support may be a valuable player in maintaining good self-esteem particularly for older men.

In conclusion, further research in social support and health in the elderly should include an examination of the pillars of their self-esteem. These examinations should focus on how self-esteem differs for elderly men and women. Issues such as attempting to separate the various components of social support using consistent measures and being able to identify those elements which are most central to individuals must also be addressed. It is certain that another twenty solid years of research will not only help to provide further answers to these areas, but inevitably more questions as well.

REFERENCES

Antonovsky, A. (1987). Unraveling the Mystery of Health: How People Manage Illness and Stay Well. San Francisco: Jossey-Bass.

Antonucci, T.C. & Akiyama, H. (1987). An examination of sex differences in social support in mid and late life. Sex Roles, 17, 737-749.

Beck, A.T. (1967). Depression: Clinical, Experimental, and Theoretical aspects. New York: Hoeber.

Belle, D. (1987). Gender differences in the social moderators of stress. In R.C. Barnett, L. Beiner, & B. K. Baruch (Eds.), Gender and Stress, 257-277. New York: Free Press.

Berkman, L.F., Leo-Summers, L., & Horwitz, R.I. (1992). Emotional support and survival after myocardial infarction: A prospective, population-based study of the elderly. Annals of Internal Medicine, 117, 1003-1009.

Berkman, L.F., & Syme, S.L. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents. American Journal of Epidemiology, 115, 186-204.

Berkman, L.F. (1982). Social network analysis and coronary heart disease. Advanced Cardiology, 29, 37-49.

Blazer, D.G. (1982). Social support and mortality in an elderly community population. American Journal of Epidemiology, 115 (5), 684-694.

Bland, R.C., Newman, S.C., & Orn, H. (1990). Health care utilization for emotional problems: Results from a community survey. Canadian Journal of Psychiatry, 35, 397-400.

Blumenthal, J.A., Burg, M.M., Barefoot, J., Williams, R.B., Haney, T., & Aimet, G. (1987). Social support, Type A behaviour, and coronary artery disease. Psychosomatic Medicine, 49, 331-339.

Booth-Kewley, S., & Friedman, H.S. (1987). Psychological predictors of heart disease: A quantitative review. Psychological Bulletin, 101, 343-362.

Branden, N. (1983). Honoring the Self: The Psychology of Confidence and Respect. Los Angeles: Bantam.

Brandt, P.A., & Weinert, C. (1981). The PRQ - a social support measure. Nursing Research, 30 (5), 277-280.

Brown, P.C., & Smith, T.W. (1992). Social influence, marriage, and the heart: Cardiovascular consequences of interpersonal control in husbands and wives. Health Psychology, 11, 88-96.

Byrne, B. (1983). Investigating measures of self-concept. Measurement and Evaluation in Guidance, 16, 3, 115-126.

Byrne, B., & Shavelson, R. (1987). Adolescent self-concept: Testing the assumption of equivalent structure across gender. American Educational Research Journal, 24, 3, 365-385.

Case, R.B., Moss, A.J., & Case, N. (1992). Living alone after myocardial infarction: Impact on prognosis. Journal of the American Medical Association, 267, 515-519.

Caserta, M.S., & Lund, D.A. (1993). Intrapersonal resources and the effectiveness of self-help groups for bereaved older adults. The Gerontologist, 33 (5) 619-629.

Chappell, N.L., Segall, A., & Lewis, D.G. (1990). Gender and helping among day hospital and senior center participants. Canadian Journal on Aging, 9 (3), 220-233.

Cohen, S. (1988). Psychosocial models of the role of social support in the etiology of physical disease. Health Psychology, 7 (3) 269-297.

Cohen, S., & Matthews, K.A. (1987). Social support, type A behaviour, and coronary artery disease [Editorial]. Psychosomatic Medicine, 49, 325-330.

Cohen, S., & Syme, S.L. (Eds.). (1985). Social support and health. New York: Academic.

Coopersmith, S. (1967). The Antecedents of Self-Esteem. San Francisco: W.H. Freeman.

D'Arcy, C. (1989). [The Saskatchewan Aging and Health Study]. Unpublished raw data.

D'Arcy, C. (1987). Aging and mental health. In V. W. Marshall (Ed.) Aging in Canada: Social Perspectives (Second Edition). Toronto: Fitzhenry and Whiteside, 424-450.

Depner, C.E., & Ingersoll-Dayton, B. (1988). Supportive relationships in later life. Psychology and Aging, 3 (4), 348-357.

Devins, G.M., Edworthy, S.M., Guthrie, N.G., & Martin, L. (1992). Illness intrusiveness in rheumatoid arthritis: Differential impact on depressive symptoms over the adult lifespan. The Journal of Rheumatology, 19, 709-715.

Dolcini, M., & Adler, N. (1994). Perceived competencies, peer group affiliation, and risk behavior among early adolescents. Health Psychology, 13 (6), 496-506.

Duffy, M. (1994). Testing the theory of transcending options: Health behaviors of single parents. Scholarly Inquiry for Nursing Practice, 8 (2), 191-202.

Duffy, M. E., & MacDonald, E. (1990). Determinants of functional health of older persons. Gerontologist, 30 (4), 503-509.

Flett, R., Harcourt, B., & Alpass, F. (1994). Psychosocial aspects of chronic lower leg ulceration in the elderly. Western Journal of Nursing Research, 16 (2), 183-192.

Geiser, D.S. (1989). Psychosocial influences on human immunity. Clinical Psychology Review, 9, 689-715.

Glauser, M.J. (1984). Self-esteem and communication tendencies: an analysis of four self-esteem/verbal dominance personality types. The Psychological Record, 34, 115-131.

Grant, I., Patterson, T.L., & Yager, T. (1988). Social supports in relation to physical health and symptoms of depression in the elderly. American Journal of Psychiatry, 145 (10), 1254-1258.

Greer, S., Morris, T., & Pettingale, K.W. (1979). Psychological response to breast cancer: Effect on outcome. The Lancet, II, 785-787.

Hansson, R.O. (1986). Relational competence, relationships, and adjustment in old age. Journal of Personality and Social Psychology, 50 (5), 1050-1058.

Harel, Z. (1988). Coping with extreme stress and aging. Social Casework: The Journal of Contemporary Social Work, (November), 575-583.

Haug, M.R.., Breslau, N., & Folmar, S.J. (1989). Coping resources and selective survival in mental health of the elderly. Research on Aging, 11 (4) 468-491.

Hayduck, L.A. (1987). Structural Equation Modelling with LISREL: Essentials and Advances. Baltimore: Johns Hopkins University Press.

Ho, S., Donnan, S., & Sham, A. (1988). Psychosomatic symptoms, social support, and self-worth among the elderly in Hong Kong. Journal of Epidemiology and Community Health, 42 (4) 377-382.

House, J.S., & Kahn, F.L. (1985). Measures and concepts of social support. In S. Cohen & S.L. Syme (Eds.), Social Support and Health (pp. 83-108). New York: Academic.

House, J., Landis, N.R., & Umberson, D. (1988). Social relationships and health. Science, 241, 540-545.

House, J.S., Robbins, C., & Metzner, J.L. (1982). The association of social relationships and activities with mortality: Prospective evidence from the Tecumseh Community Health Study. American Journal of Epidemiology, 116, 123-140.

Hutchings, J., & Gower, K. (1993). Unemployment and mental health. Journal of Mental Health, 2 (4) 355-358.

Jenkins, C.D., Stanton, B.A., & Jono, R.T. (1994). Quantifying and predicting recovery after heart surgery. Psychosomatic Medicine, 56 (3), 213-215.

Johnson, R.J., Lund, D.A., & Dimond, M.F. (1986). Stress, self-esteem and coping during bereavement among the elderly. Social Psychology Quarterly, 49(3), 273-279.

Kiecolt-Glaser, J.K., Kennedy, S., Malkoff, S., Fisher, L., Speicher, C.E., & Glaser, R. (1988). Marital discord and immunity in males. Psychosomatic Medicine, 50, 213-229.

Kiecolt-Glaser, J.K., Glaser, R., Williger, D., Stout, J., Messick, G., Sheppard, S., Richer, D., Romisher, S.C., Briner, W., Bonnell, G., & Donnerberg, R. (1985). Psychosocial enhancement of immunocompetence in a geriatric population. Health Psychology, 4 (1), 25-41.

Kirschbaum, C., Klauer, T., Filipp, S., & Hellhammer, D. (1995). Sex-specific effects of social support on cortisol and subjective responses to acute psychological stress. Psychosomatic Medicine, 57, 23-31.

Krause, N., & Borawski-Clark, E. (1994). Clarifiying the functions of social support in later life. Research on Aging, 16 (3), 251-279.

Krause, N., & Keith, V. (1989). Gender differences in social support among older adults. Sex Roles, 21 (9/10), 609-628.

Lee, G.R., & Shehan, C. (1989). Social relations and the self-esteem of older persons. Research on Aging, 11 (4), 427-442.

Leonard, B.E. (1990). Psychoneuroimmunology: an area of interest for the psychopharmacologist? Journal of Psychopharmacology, 4 (1), 1-6.

Lewinsohn, P.M., Rohde, P., Seeley, J.R., & Fischer, S.A. (1991). Aging and depression: unique and shared effects. Psychology and Aging, 6 (2), 247-260.

Lin, N., Woelfel, M.W., & Light, S.C. (1985). The buffering effect of social support subsequent to an important life event. Journal of Health and Social Behavior, 26, 247-263.

Linden, W., Chambers, L., Maurice, J., & Lenz, J. (1993). Sex differences in social support, self-perception, hostility, and ambulatory cardiovascular activity. Health Psychology, 12 (5), 376-380.

Maier, S.F., Watkins, L.R., & Fleshmer, M. (1994). Psychoneuroimmunology: the interface between behaviour, brain, and immunity. American Psychologist, 49(12), 1004-1017.

McNeil, J.K., & Harsany, M. (1989). An age difference view of depression. Canadian Psychology, 30 (3), 608-615.

Megel, M., Wade, F., Hawkins ,P., & Norton, J. (1994). Health promotion, self-esteem, and weight among female college freshmen. Health Values: the Journal of Health Behavior, Education, and Promotion, 18, (4) 10-19.

Meyers, A. & Dewar, H.A. (1975). Circumstances attending 100 sudden deaths from coronary heart disease with coroner's necropsies. British Heart Journal, 37, 1133-1143.

Murrell, S. A., Meeks, S., & Walker, J. (1991). Protective functions of health and self-esteem against depression in older adults facing illness or bereavement. Psychology and Aging, 6 (3), 352-360.

Myhill, J.E., & Lorr, L. (1988). The place of self-esteem in interpersonal behaviour. Journal of Clinical Psychology, 44, 206-208.

Neff, J.A., Prihoda, T.J., & Hoppe, S.K. (1991). Machismo, self-esteem, education, and high maximum drinking among anglo, black, and mexican-american male drinkers. Journal of Studies on Alcohol, 52(5), 458-463.

Orth-Gomer, K., & Johnson, J.V. (1987). Social network interaction and mortality. Journal of Chronic Disability, 40, 949-957.

Orth-Gomer, K., & Unden, A.L. (1990). Type A behaviour, social support and coronary risk: Interaction and significance for mortality in cardiac patients. Psychosomatic Medicine, 52, 59-72.

Perlin, L.I., & Schooner, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.

Pilisuk, M., Boylan, R., & Acredolo, C. (1987). Social support, life stress, and subsequent medical care utilization. Health Psychology, 6(4), 273-288.

Rew, L. (1990). Correlates of health-promoting lifestyle and sexual satisfaction in a group of men. Issues in Mental Health Nursing, 11 (3), 283-295.

Reynolds, W.M. (1982, March). Noncognitive correlates of achievement: An examination of academic self-concept. Paper presented at the Annual Meeting of the American Educational Research Association, New York.

Rook, K.S. (1984). The negative side of social interaction: Impact on psychological well-being. Journal of Personality and Social Psychological, 46, 1097-1108.

Rosenberg, M. (1979). Conceiving the Self. New York: Basic Books.

Rossi, E. (1991). The 20 Minute Break. Los Angeles: Tarcher.

Rusbult, C.E., Morrow, G.D., & Johnson, D.J. (1987). Self-esteem and problem solving behaviour in close relationships. British Journal of Social Psychology,26, 293-303.

Russell, D.W. & Cutrona, C.E. (1991). Social support, stress, and depressive symptoms among the elderly: test of a process model. Psychology and Aging, 6 (2),190-201.

Saskatchewan Health (1985). Vital Statistics by Health Region, 1985, Regina.

Saskatchewan Health (April 1990). The Growth in Use of Health Services: 1977/78 to 1985/86, Regina.

Schoenbach, V.J., Kaplan, B.H., Fredman, L., & Kleinbaum, D.G. (1986). Social ties and mortality in Evans County, Georgia. American Journal of Epidemiology, 123, 577-591.

Schulz, R. & Williamson, G. (1991). A 2 year longitudinal study of depression among Alzheimer's caregivers. Psychology and Aging, 6 (4), 569-578.

Schwarzer, R., & Leppin, A. (1989). Social support and health: a meta analysis. Psychology and Health, 3, 1-15.

Seeman, T.E., & Syme, S.L. (1987). Social networks and coronary artery disease: A comparison of the structure and function of social relations as predictors of disease. Psychosomatic Medicine, 49, 340-353.

Shaffer, J.W., Graves, P.L., Swank, R.T., & Pearson, T.A. (1987). Clustering of personality traits in youth and the subsequent development of cancer among physicians. Journal of Behavioural Medicine, 10, 441-447.

Shumaker, S. A., & Hill, R.D. (1991). Gender differences in social support and physical health. Health Psychology, 10(2), 102-111.

Silber, E., & Tippett, J. (1965). Self-esteem: Clinical assessment and measurement validation. Psychological Reports, 16, 1017-1071.

Simmons-Tropea, D., & Osborne, W.L. (1987). Disease, survival and death: the health status of Canada's elderly. In V. W. Marshall (Ed.) Aging in Canada : Social Perspectives (Second Edition). Toronto: Fitzhenry and Whiteside, 300-423.

Speigel, D. (1993). Living Beyond Limits. Toronto: Random House.

Statistics Canada. (1991). Mortality: Summary List of Causes, Ottawa.

Swann, W.B., & Predmore, S.C. (1985). Intimates as agents of social support: sources of consolation or despair? Journal of Personality and Social Psychology, 49(6), 1609-1617.

Taylor, S.E. (1990). Health Psychology: The science and the field. American Psychologist, 45 (1),40-50.

Thompson, G. (1993). Mental Health: The Essential Thread (Volume 1 and Volume 2: Supplementary Annotations). Alberta: Mental Health Division.

Thomas, P.D., Goodwin, J.M., & Goodwin, J.S. (1985). Effect of social support on stress-related changes in cholesterol level, uric acid level, and immune functioning in an elderly sample. American Journal of Psychiatry, 142 (6), 735-737.

Thomason, B.T., Brantley, P.J., Jones, G.N., Dyer, H.R., & Morris, J.L. (1992). The relation between stress and disease activity in rheumatoid arthritis. Journal of Behavioral Medicine, 15, 215-220.

Unden, A., Orth-Gomer, K., & Elofsson, S. (1991). Cardiovascular effects of social support in the workplace: twenty-four hour ECG monitoring of men and women. Psychosomatic Medicine, 53, 50-60.

Verbrugge, L.M. (1989). The twain meet: Empirical explanations of sex differences in health and mortality. Journal of Health and Social Behavior, 30, 282-304.

Williams, R.B., Barefoot, J.C., & Califf, R.M. (1992). Prognostic importance of social and economic resources among medically treated patients with angiographically documented coronary artery disease. Journal of the American Medical Association, 267, 520-545.

APPENDIX A

The Rosenberg Self-Esteem Scale (Rosenberg, 1979)

Below are some questions about yourself. Please read each question and check the appropriate response.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	On the whole, I am satisfied with myself.	—	—	—	—
2.	At times, I think I am no good at all.	—	—	—	—
3.	I feel that I have a number of good qualities.	—	—	—	—
4.	I am able to do things as well as most other people.	—	—	—	—
5.	I feel that I do not have much to be proud of.	—	—	—	—
6.	I certainly feel useless at times.	—	—	—	—
7.	I feel that I'm a person of worth, at least on an equal plane with others.	—	—	—	—
8.	I wish I could have more respect for myself.	—	—	—	—
9.	All in all, I am inclined to feel that I am a failure.	—	—	—	—
10.	I take a positive attitude toward myself.	—	—	—	—

APPENDIX B

The Personal Resource Questionnaire-Part Two (Brandt and Weinert, 1981)

Below are some statements with which some people agree and others disagree. Please read each statement and check the box below the response most appropriate for you. There are no right or wrong answers.

		Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
A.	There is someone I feel close to who makes me feel secure.	___	___	___	___	___	___	___
B.	I belong to a group in which I feel important.	___	___	___	___	___	___	___
C.	People let me know that I do well at my work.	___	___	___	___	___	___	___
D.	I can't count on my relatives and friends to help me with problems.	___	___	___	___	___	___	___
E.	I have enough contact with the person who makes me feel special.	___	___	___	___	___	___	___
F.	I spend time with others who have the same interests that I do.	___	___	___	___	___	___	___
G.	There is little opportunity in my life to be giving and caring to another person.	___	___	___	___	___	___	___
H.	Others let me know that they enjoy working with me.	___	___	___	___	___	___	___
I.	There are people who are available if I needed help over an extended period of time.	___	___	___	___	___	___	___
J.	There is no one to talk to about how I am feeling.	___	___	___	___	___	___	___
K.	Among my group of friends we do favors for each other.	___	___	___	___	___	___	___
L.	I have the opportunity to encourage others to develop their interests and skills.	___	___	___	___	___	___	___

M.	My family lets me know that I am important for keeping the family running.	___	___	___	___	___	___	___
N.	I have relatives or friends who will help me out even if I can't pay them back.	___	___	___	___	___	___	___
O.	When I am upset there is someone I can be with who lets me be myself.	___	___	___	___	___	___	___
P.	I feel that no one has the same problems as I.	___	___	___	___	___	___	___
Q.	I enjoy doing little "extra" things that make another person's life more pleasant.	___	___	___	___	___	___	___
R.	I know that others appreciate me as a person.	___	___	___	___	___	___	___
S.	There is someone who loves and cares about me.	___	___	___	___	___	___	___
T.	I have people to share social events and fun activities with.	___	___	___	___	___	___	___
U.	I am responsible for helping provide for another person's needs.	___	___	___	___	___	___	___
V.	If I need advice there is someone who would assist me to work out a plan for dealing with the situation.	___	___	___	___	___	___	___
W.	I have a sense of being needed by another person.	___	___	___	___	___	___	___
X.	People think that I'm not as good a friend as I should be.	___	___	___	___	___	___	___
Y.	If I got sick there is someone to give me advice about caring for myself.	___	___	___	___	___	___	___

APPENDIX C

Health Status Measures

Overall Self-Rated Health Status

How would you describe your state of health? Compared to other persons your age, would you say it was...

__ Excellent (never prevents activities)

__ Good (rarely prevents activities)

__ Fair (occasionally prevents activities)

__ Poor (very often prevents activities)

__ Very Poor (health troubles or infirmity all the time prevents most activities-requires confinement to bed)

Number of Visits to Doctor in Past Year

During the **last 12 months**, how many times did you see or talk to a **general practitioner** about your health?

____ Times

____ None

____ Don't know

APPENDIX C (CONTINUED)

Physical Symptoms Currently Being Experienced

Below are listed some physical conditions or disorders. Please check if you **have any of these conditions.** Also indicate those conditions that **limit your ability to be active.**

	Has a doctor told you that you have:	**Yes**	**No**	**Don't Know**	**Limits Activity**
A.	Alzheimer's/ Memory Trouble/Dementia	___	___	___	___
B.	Arthritis/Rheumatism/Bursitis	___	___	___	___
C.	Cancer	___	___	___	___
D.	Convalescence from Surgery	___	___	___	___
E.	Diabetes/Thyroid Disease	___	___	___	___
F.	Epilepsy/Convulsion/Seizures	___	___	___	___
G.	Hardening of the Arteries	___	___	___	___
H.	Heart Disease/Heart Attack/ Angina/ Heart Failure/Rheumatic Heart Disease	___	___	___	___
I.	High Blood Pressure	___	___	___	___
J.	Head Injury/Injury/Deformity/Fall	___	___	___	___
K.	Liver Trouble/Kidney Trouble	___	___	___	___
L.	Parkinson's Disease (Palsy)	___	___	___	___
M.	Poor Hearing (Hearing Loss)	___	___	___	___
N.	Poor Vision Not Relieved By Glasses (cataracts, glaucoma)	___	___	___	___
O.	Chronic Respiratory Problems like Emphysema, Asthma, Bronchitis, Persistent Cough, or Shortness of Breath	___	___	___	___
P.	Stroke	___	___	___	___
Q.	Tuberculosis	___	___	___	___
R.	Stomach Trouble/ Ulcer/Gallbladder Trouble	___	___	___	___
S.	Other_____	___	___	___	___

APPENDIX D

Listwise Correlation Matrices and Path Analysis Model

Correlation Coefficients for Men and Women Combined (n= 365)

	Total Support	Total Self Esteem	Self-Rated Health Status	Visits to Physician
Total Self-Esteem	r=.48 p < .001	-		
Self-Rated Health Status	r= -.15 p< .01	r= -.31 p< .001	-	
Visits to Physician	r= .05 p< .35	r= -.03 p< .62	r= .10 p< .05	-
Number of Health Problems	r= -.05 p< .36	r= -.18 p< .001	r= .41 p< .001	r= .22 p< .001

Women Only (n=186)

	Total Support	Total Self Esteem	Self-Rated Health Status	Visits to Physician
Total Self-Esteem	r=.47 p < .001	-		
Self-Rated Health Status	r= -.20 p< .01	r= -.26 p< .001	-	
Visits to Physician	r= .004 p< .96	r= -.002 p< .98	r= .07 p< .38	-
Number of Health Problems	r= -.07 p< .33	r= -.10 p< .20	r= .31 p< .001	r=.16 p< .03

APPENDIX D (CONTINUED)

Men Only (n=179)

	Total Support	Total Self Esteem	Self-Rated Health Status	Visits to Physician
Total Self-Esteem	r= .49 p < .001	-		
Self-Rated Health Status	r= -.10 p< .20	r= -.37 p< .001	-	
Visits to Physician	r= .12 p< .10	r= -.10 p< .16	r= .20 p< .01	-
Number of Health Problems	r= -.03 p< .65	r= -.28 p< .001	r= .50 p< .001	r=.32 p< .001

Path Analysis Model Tested